RECORD OF CONVERSATION

Conversation With:

Nate Thomas

Date:

1/10/05 and 1/26/05

Company/Agency:

BLM Elv Office

Time:

Address:

Project No:

TDCC No:

Personnel Present:

Melissa Russ, AGEISS

Phone Number: 775-289-1800

SUBJECT: Paleontological Resources

SUMMARY

I contacted the BLM Ely Office (775-289-1800) the week of January 10 to try and obtain a publicly-available brochure called the Trilobite Trail. I talked with Mr. Thomas who said he would send it out. I relayed the reason for my interest and Mr. Thomas indicated that the Ely office has concerns about some fossil assemblages and the proximity to the rail line. He said he would talk to his boss, Mr. Mark Henderson, and return my call.

Mr. Thomas called me on January 26 to say he was sending some information regarding the locations of the fossil assemblages and that he would welcome a visit from me or someone on the team to show us the locations. I said I would review the information he sent and follow up with him regarding a possible visit.

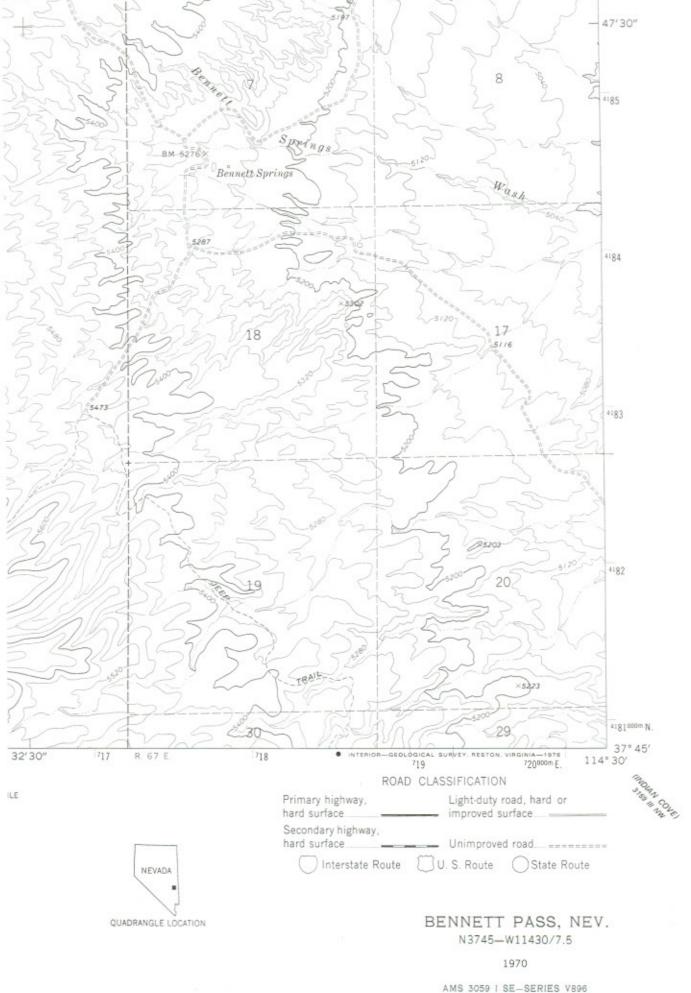
After reviewing the information, there could be a concern near the area of Bennett Pass as well as on the east side of the Chief Range. There is a trilobite assemblage there that is being studied to determine the exact place (in time) where a specific species extinction occurred. I will follow up with him.

Attachments: Trilobite Brochure; 2 maps showing locations of paleontological resources near Bennett Pass

CC:

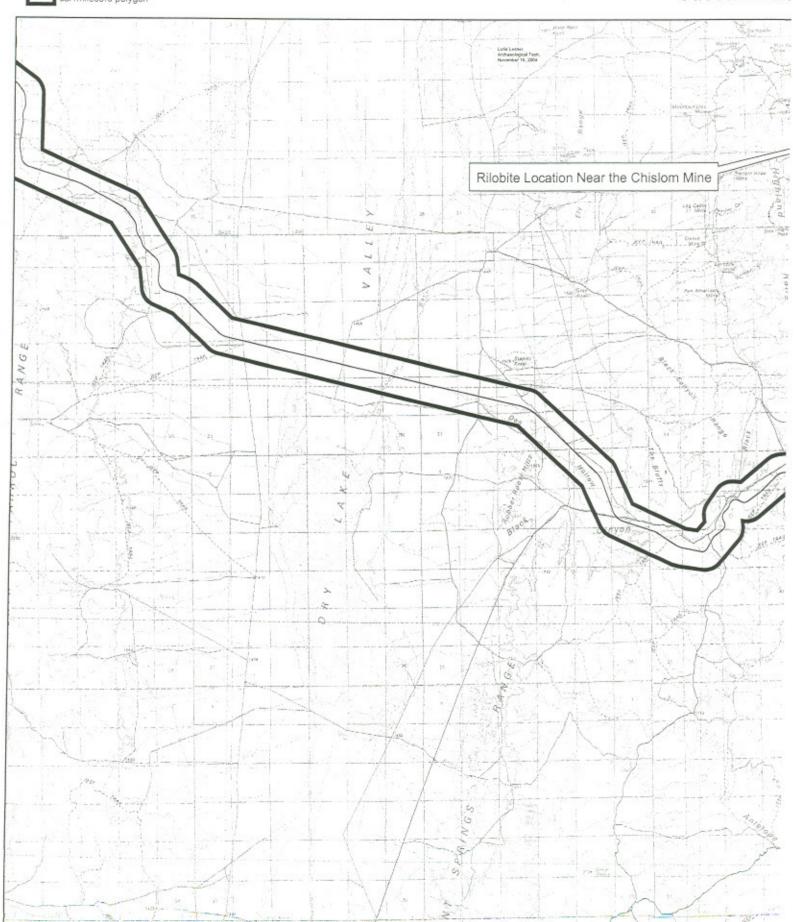
Completed by: Melissa Russ

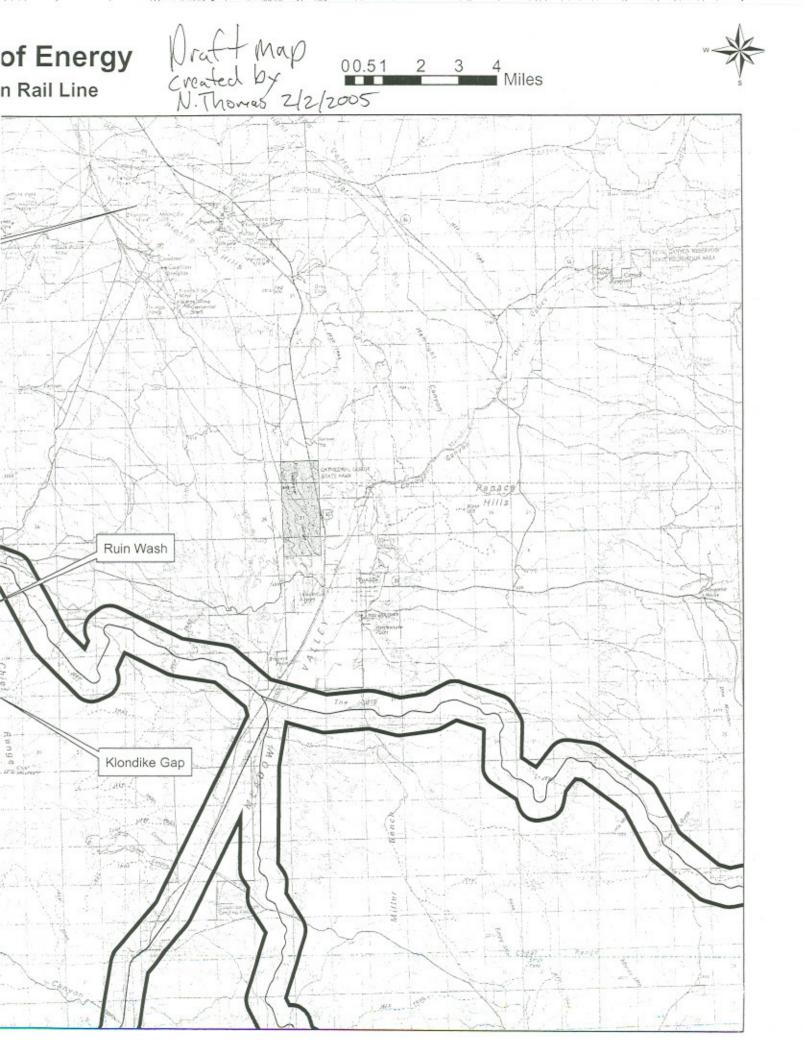
BENNETT PASS QUADRANGLE NEVADA-LINCOLN CO. 7.5 MINUTE SERIES (TOPOGRAPHIC) 114° 30′ 37° 52′ 30″ 719 | 810 000 FEET 32'30" R: 67 E (83 Canyon 4194 4193 4192 1 130 000 FEET 19 E 4191 50'



Yucca Moun

Legend cal1milecoru polygon





TRILOBITES AT OAK SPRINGS SUMMIT

(Near Caliente, Nevada)

A GUIDE AND HISTORY OF THE COLLECTING AREA

U.S. Department of the Interior Bureau of Land Management U.S. Geological Survey

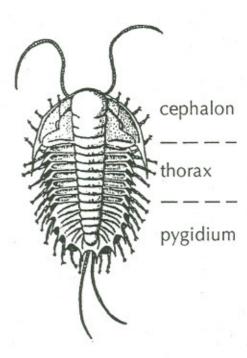






What is a Trilobite?

A trilobite is a fossil of an animal that lived in the sea. It had a shell like a horseshoe crab, jointed legs, and antennae. Its eyes were compound, like a fly, and it could curl up like a pill bug.



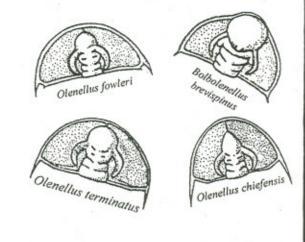
The trilobite gets its name from the longitudinal divisions of its shell into a central part and two side parts. The body consists of a head (cephalon), a variable number of segments in a thorax, and a tail (pygidium).

When the trilobite died, the parts of the shell often were separated, so that complete bodies were rarely preserved. Most commonly we find isolated heads, thoracic segments, and tails.

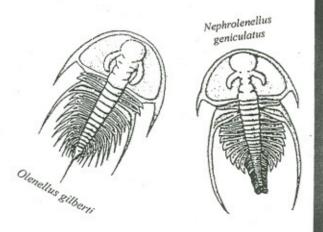
The Trilobites at Oak Springs Summit

Fossil remains of six types of trilobites are found in the tan-colored shale at the site.

You will find mostly heads.



But you may be lucky and find a whole specimen.



Paleogeography

The trilobites at Oak Springs summit belong to a family called the Olenellidae that dominated the shallow seas that began to cover parts of North America 530 million years ago



Trilobites & Extinctions at Oak Springs Summit

Ten million years later, the Olenellidae disappeared abruptly everywhere. Limited evidence suggests that the warm, well-oxygenated surface waters of the world's oceans were disrupted (perhaps by a meteor impact?) and replaced by cold, oxygen-poor water from the ocean depths. Many animals in the shallow seas could not adapt and became extinct. However, other families of trilobites survived for more than 100 million years.

A trench at the collecting area exposes the fossil rich layers below the extinction boundary. The nearly barren layers above the boundary are also visible.

Collecting

Common invertebrate fossils such as trilobites, plants, and mollusks may be collected from public lands for personal use in reasonable quantities, but may not be bartered or sold.

Care should be taken to minimize disturbance of vegetation and soil. Excavation of pits or trenches is not encouraged. If encountered, trenches or pits should be contoured so that they are not hazardous to people, livestock, and wildlife.

Please limit your collections to the smallest number of specimens that you anticipate keeping. You should always wear eye protection when prospecting, Many fossil collectors use a mason's hammer with a chisel shaped blade for separating layers of shale.

Remember that prehistoric and historic artifacts, archeological sites, and vertebrate fossils, such as dinosaurs, mammals, fishes, and reptiles may be collected only by trained researchers under permit.

Further Reading

Palmer, A.R. 1998. Terminal Early Cambrian Extinction of the Olenellina: Documentation from the Pioche Formation, Nevada. Journal of Paleontology 72:4:650-672.

Gould, Stephen J. 1989. Wonderful Life: the Burgess Shale and the Nature of History. New York: W.W. Norton and Company.

Tschanz, C.M., and E.H. Pampeyan 1970. Geology and Mineral Deposits of Lincoln County, Nevada.

Reno: Nevada Bureau of Mines and Geology

Bulletin 73. Great for Geology

Throughout Lincoln Cty

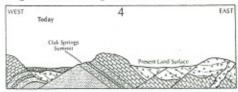
Bureau of Land Management Ely District, Caliente Field Station

P.O. Box 237 Caliente, NV 89008 for inquiries phone 775-726-8100

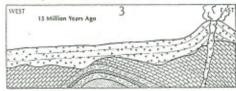
Produced in cooperation with The Institute for Cambrian Studies,

Geologic History

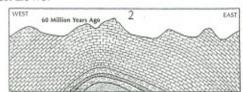
Over the 520 million years since the Olenellidae swarmed in a shallow sea the landscape has changed remarkably at Oak Springs Summit. Geologists read the story taking us from the present back in time.



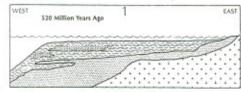
The view today shows massive blocks of volcanic rocks and ancient sea-laid limestones contorted and broken by earthquake faults and eroded by wind and water.



About 15 million years ago volcanos centered near Caliente buried all the earlier rocks under many hundreds of feet of rhyolitic magma and ash flows.

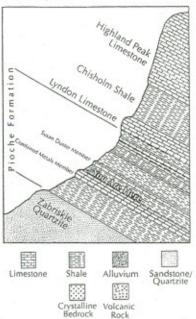


Between 35 million and 60 million years ago the ancient sea-laid sediments were folded, uplifted, and eroded.



Starting more than 520 million years ago, an ancient sea covered the area depositing mud

This sketch, a profile of the mountain slope as if it were cut with a knife, shows the sequence of different rock layers.



In reading the geologic history pay attention to the symbols for the various rock types.

Why is the Study of Fossils Important?

From the tiniest bacteria to some of the largest creatures ever to roam the Earth, swim in its seas, or soar in its skies - fossils are clues which help us solve the fascinating riddles of how life on Earth evolved. Fossils illustrate how all forms of life are interdependent and affected by their environment. They also contribute to the way we live. Fossils constitute the bulk of many rock types, such as coal, phosphate, and limestone, or serve as indicators of other commodities, such as oil and gas, which are important in our economy and everyday lives. In addition, fossils are simply fun to study because of their natural beauty and the excitement, wonder, and understanding they

Where are They?

The trilobite fossil collecting area is about 12 miles west of Caliente on U.S. Highway 93. Leaving Caliente, continue over the Oak Springs Summit to a point approx. mid-way between milepost markers 82 and 81. A dirt road to the right (north) leads to a borrow, or gravel pit. Park at the gravel pit and walk west about two tenths of a mile to a knob or hill. The fossils are exposed in a trench on the east slope of the knob.

